

**THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**LISTING OF CLAIMS:**

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18. (Currently amended) A method for applying a soil biocide formulation to soil comprising:

~~adding to an aqueous medium an effective amount of a soil biocide selected from the group consisting of methyl bromide, chloropicrin, 1-3 dichloropropene and methylisothiocyanate, and an emulsifier; and~~

creating a biocide formulation containing

an emulsifier, and

an effective amount of a soil biocide selected from the group consisting of methyl bromide, chloropicrin, 1-3 dichloropropene, and methylisothiocyanate;

creating a soil treatment mixture by adding said biocide formulation to an aqueous medium; and

applying the resulting said soil treatment mixture to the soil.

19. (Currently amended) The method as recited in claim 18, wherein said soil biocide is present in a range of approximately 50 to 99% by weight of the biocide formulation; and said emulsifier is present in a range of approximately 50 to 1% by weight of the biocide formulation.

20.(Original) The method as recited in claim 18, wherein said emulsifier is comprised of non-ionic and anionic surfactants.

21. (Currently amended) The method as recited in claim 18, wherein said soil biocide is present in said biocide formulation in the range of approximately 80 to 95% by weight; and said emulsifier is present in said biocide formulation in the range of approximately 20 to 5% by weight.

22. (Currently amended) The method as recited in claim 18, wherein said soil biocide is present in said biocide formulation in the preferred range of approximately 90-95% by weight; and said emulsifier is present in said biocide formulation in the range of approximately 5-10% by weight.
23. (Currently amended) The method as recited in claim 20, wherein said anionic surfactant is present in said ~~surfactant~~ emulsifier in the range of approximately 0.1 to 40% by weight.
24. (Original) The method as recited in claim 20, wherein the anionic surfactant is selected from the group consisting of Isopropyl amine Dodecyl Benzene Sulfonate, Dodecyl Benzene Sulfonate, and Sodium Dodecyl Benzene Sulfonate.
25. (Original) The method as recited in claim 20, wherein the non-ionic surfactant is selected from the group consisting of Tridecyl Ethoxylate, Castor Oil Ethoxylate, nonylphenol ethoxylate, Octyl phenol ethoxylate and Isoheptyl Ethoxylate.
26. (Original) The method as recited in claim 20, wherein said non-ionic surfactant is present in said emulsifier in the range of approximately 70 to 100% by weight of the emulsifier.
27. (Currently amended) The method as recited in claim 18, wherein said soil biocide comprises 1,3 Dichloropropene, having an application rate of approximately 13-56 gal per acre.
28. (Currently amended) The method as recited in claim 18, wherein said soil biocide comprises chloropicrin having an application rate of approximately 100-300 lbs per acre.
29. (Currently amended) The method as recited in claim 18, wherein said soil biocide comprises methylisothiocyanate having an application rate of approximately 7-100 lbs. per acre.

30. (Currently amended) The method as recited in claim 18, wherein said soil biocide comprises methyl bromide having an application rate of approximately 150-400 lbs. per acre.

31. (Currently amended) The method as recited in claim 18, wherein said emulsifier is comprised of:

~~nonphenol~~ nonylphenol ethoxylate in an amount from approximately 50 to 90%;  
castor oil ethoxylate in an amount from approximately 10 to 40%;  
isopropyl amine dodecyl benzene sulfonate in an amount from approximately 0.1 to 10%; and, isopropyl alcohol in an amount from approximately 0.1 to 30%.

32. (Currently amended) A method for fumigating soil, said method comprising the steps of:

~~adding to an aqueous medium an effective amount of a soil biocide selected from the group consisting of methyl bromide, chloropicrin, 1-3 dichloropropene and methylisothiocyanate, and an emulsifier; and~~  
creating a biocide formulation containing  
an anionic surfactant,  
a non-ionic surfactant, and  
an effective amount of a soil biocide selected from the group consisting of  
methyl bromide, chloropicrin, 1-3 dichloropropene, and methylisothiocyanate;  
creating a soil treatment mixture by adding said biocide formulation to an aqueous medium; and,  
~~applying the resulting said soil treatment~~ said soil treatment mixture to the soil in a drip irrigation system.

33. (New) A method for fumigating soil as recited in claim 32 wherein said drip irrigation system comprises components made of plastic.

34. (New) The method as recited in claim 18, wherein said soil treatment mixture is applied to the soil through a system comprising plastic components.

35. (New) A method for applying a soil biocide formulation to soil comprising:  
creating a biocide formulation including

an anionic surfactant,  
a non-ionic surfactant, and  
an effective amount of a soil biocide selected from the group consisting of  
methyl bromide, chloropicrin, 1-3 dichloropropene, and methylisothiocyanate;  
creating a soil treatment mixture by adding said biocide formulation to an aqueous  
medium; and  
applying said soil treatment mixture to the soil.

36. (New) The method as recited in claim 35, wherein said anionic surfactant comprises  
isopropyl amine dodecyl benzene sulfonate, and said non-ionic surfactant comprises castor oil  
ethoxylate and nonylphenol ethoxylate.

37. (New) The method as recited in claim 36, wherein said biocide formulation further  
comprises isopropyl alcohol.